

# SUPPLEMENT.

# The Mining Journal, RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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## THE SOUTHERN GOLD FIELDS OF NEW SOUTH WALES, &c.

### CHAPTER I.

Whilst the inhabitants of Sydney were astounded at the disastrous shipwrecks taking place along the coast, and those upon whom devolved, or should have devolved, the duty of rendering the entrance into Sydney Harbour compatible with its increasing commerce were profoundly expounding, through the medium of the press, the circumlocution doctrine of "how not to do it," which they appeared to think, or rather ingeniously demonstrated to be an obscure principle involved in the convenient *coup de grace* of "Pop Goes the Weazel," we took passage for Braulee, the newly-discovered gold field, 170 miles down the coast, to the southward.

We beat out of Port Jackson, one of the most delightful harbours in the world, against a head-wind, and on rounding the Heads passed close to the point of rocks upon which it is supposed the ship *Dunbar* foundered; and though we were full a mile from the perpendicular bluffs upon which the lighthouse stands, yet the top of it was not visible. The oversight of placing the lighthouse in a position so that light cannot be seen from the decks of vessels sailing close in under the land tended, no doubt, in some degree to the fatal mistake committed by Capt. Green, and by which so many valuable lives were sacrificed. It would seem that Britannia's sun of science has not shot its morning rays athwart the seas, to beam with meridian lustre on the shores of Australia; indeed, every attempt to concentrate one of its erratic rays has hitherto proved abortive; for, alas! as soon as one is discovered to shine with more than usual splendour, it is at once surrounded and absorbed by the privileged colours, whence it rarely ever evolves again.

About sunset the wind shifted, and increased to a gale, which compelled us to put into Jervis's Bay—fine sheet of land-locked water, about 90 miles from Sydney. On the morrow we landed on the south side of the bay, on a fine sandy beach, remarkably white, and full of the remains of pulverised shells. In one part there was a ledge of fine conglomerate rock jutting into the water, and known as the "Hole in the Wall," from a hole the sea had worked through it, and in which were found small pieces of lead, and other minerals, varying from the size of a pea to that of a rifle bullet: the lead having the appearance of having been shot against the rock into which it penetrated. Further east, and opposite the island at the entrance of the bay, some emery, intermixed with fine specks of gold, or mica, were observed; but before our investigations were completed we were interrupted by the vessel getting under weigh. The conglomerate resembled the rough sandstone to the north of Sydney, and was nearly horizontal, dipping, if any, to the west; and here and there indefinite indications of an inferior formation were to be observed, probably a continuation of the Woollongong coal strata.

After a sail of 12 hours we cast anchor inside of Snapper Island, Bateman's Bay, and near the entrance to the River Clyde. Snapper Island appears to have been formerly used by the aborigines as a place of burial, and in a cave, which extends nearly the whole length of the island, some of the war implements, and even the preserved, or mummied, remains of those interred there have been found.

At nine in the morning we landed on the south side of the bay, at a distance of about ten miles from the diggings. The landing-place was between two reefs of schistose rocks, intersected by bands of quartz, of from 1 in. to 5 in. broad, the quartz being, in some instances, arranged in rectangular flutings across the strike of the bands, and presenting a miniature resemblance of the north and south dykes to be seen intersecting the coal strata in the Newcastle coal field in the Hunter district. The comparison was indeed instructive, and finally led to discoveries which materially strengthened a conviction we have long since entertained of the possibility of placing beyond a doubt the unsettled question relative to the true classification of the transition rocks.

The road to the diggings lay over high ridges of mountains, whose surface was covered with profusion of quartz, and other indications usually found on approaching a gold field. When within two miles of the diggings, we met two men on their way to the coast. They said that the gold was found in heaps—that several nuggets had been found during the week; and that an old miner had that morning picked one up weighing more than an ounce. This, as you may imagine, elated us considerably, so that the remainder of the distance was pursued with renewed energy. Alas! on our arrival on the ground the account was far from being verified; all, without exception, telling pitiful tales about their unproductive claims, and not one, when questioned closely, admitting that he cleared his rations. The gold had taken wings and down away, or rather the Braidwood miners, who were the first on the ground, had worked the productive part of the creek, so that on our arrival—which was six weeks after the first discovery—the gold for individual mining was to a great extent exhausted, or rather the claims of most value had been turned over, so that there was no alternative for those who followed but to rework the ground they had hopelessly deserted or thrown aside. Even, at first, the most successful did not realise, on an average, more than 3*s.* per week per man, and by taking the average for the six weeks, the amount did not exceed 25*s.* per week. This for gold digging was a very pitiful return indeed. We were, however, determined to give the creek a fair trial, after coming so great a distance; and the first dishful of the auriferous mud, for it deserves not a better appellation, gave 10 grains, the next less, and the third one solitary speck. A new claim was then selected, but, after a persevering trial, the result proved much the same; not that the gold was scarce, but its distribution was such, that in order to work it advantageously considerable outlay of capital would be necessary—more than miners could command, who appeared, as a class, little if any better off than those in England and Wales.

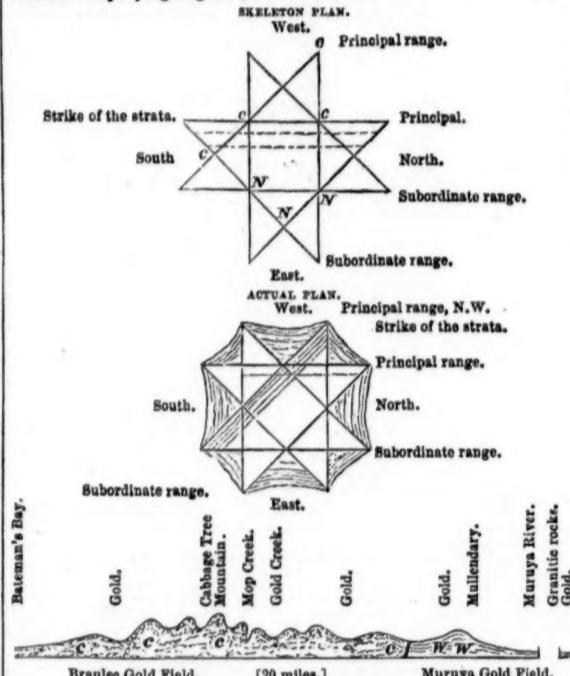
We had not been many days at the diggings when we were requested to join a prospecting party, with which we complied, and arrangements were made to meet at six o'clock on the following morning. At the appointed time we started, and after a walk of some hours we came to a halt, the pioneer having suddenly lost his latitude. At this juncture geological knowledge proved serviceable. Knowing the invariable strike of the strata we took our departure, and soon gained the right track again, which was followed to the Waterfall Creek, leading to the River Clyde, which falls into the sea in Bateman's Bay. On ascending the creek about a mile a halt was suggested. The fire was lighted, the "Billy" put on, and while the water was boiling for tea two of the party made prospect, which yielded 2 grains of gold, rather fine. This was considered good for a first trial on a new creek. A little higher up another dishful was washed, which gave two more grains, somewhat coarser than the first; and still higher a third prospect was tried, giving one solitary speck. "Oh, my!" said an old miner, as he made an attempt to blow the emery out of the dish, "this will never do." "Oh, yes it will, though!" said another, "for I feel persuaded that the whole creek is teeming with gold, and that of the best quality." "Look!" said he, at the same time exhibiting one of the roughest grains, "where did you ever see more sterling stuff than

this; and where did any one," he added, "find gold like this without coming to the natural conclusion that there was plenty more where this came from?" Hear, hear!

On our return to the working creek, two of the party gave a fabulous account of our prospecting, so that on the following day a rush was made for the newly-discovered El Dorado, and after spending the whole day fruitlessly prospecting, returned much exhausted, and rather annoyed that they should have been, as they supposed, duped.

The succeeding day several of the diggers went prospecting the new creek again, and strangely enough returned with the most glowing account of their success. On the Monday another rush ensued. A new rush is a novel sight. Away they go, heading little the impediments in the way. Gold they want, and gold they must have, and the prospect of gold on these occasions seems to give an energy that enables them to surmount any obstacle, however formidable; indeed, I have more than once seen them rushing on—now in single file, now breast and breast, and occasionally throwing out detachments on either side, for the purpose of reconnoitring the way, with all the regularity and precision of an army on the march; and now rushing headlong through streams, sometimes wading and sometimes swimming, and those who could not swim at all, in the hurry of keeping the lead, would find some means of crossing rivers, in which on other occasions nothing could save them from being drowned.

The Braulee gold field is bounded by the River Clyde and Bateman's Bay on the north-west and north, by the sea on the east, and the Muruya River on the south and south-west. The distance from the mouth of the Clyde to that of the Muruya is about 20 miles; it is a truly mountainous region, composed of principal and subordinate ranges. The principal ranges trend about north north-west to south south-east, and the subordinates at right angles thereto—that is, viewing the region on a broad scale, but a closer inspection develops features that has a close resemblance to the accompanying diagrams, Nos. 1 and 2:



To be continued from the Muruya River to the Minerva Range; from the Gold Creek to Braidwood; from Braidwood to Areluin Gold Field; thence to Mayer's Creek and Mayer's Flats; Bell's Creek to Bell's Flat; Bell's Flat to Narrigo; Narrigo to Sassafrax; Sassafrax to Shonhoven, &c.

C C, converging points of elevation, which are generally to be distinguished by a dome rising considerably above the usual summit of the range. N N, converging points of the creeks, or centres of depression, filled with the deposits brought down by the floods, and, in many instances, containing an abundance of gold. The strike of the strata is in the direction of the meridian, with a prevailing inclination at a high angle to the east. Owing to the great sweep of some of the creeks, the strike of the strata is often at right angles, and parallel to the flow of water in different parts of the same creek. In the latter case, the old miner seldom troubles himself with searching that part for gold, and it seems rather singular that it does not occur to him to follow the bars along the range. Some will perhaps say that this is sometimes done: certainly, but those who are guided more by chance than knowledge. I have frequently known persons, who boasted having wrought, more or less, at all the diggings in Australia, sink pits on the sides of the ranges where the strike of the strata was parallel to the beds of the creeks, abandon the work immediately on striking the rock, and this, too, when they were evidently on the edge of a gutter or trough, containing, no doubt, a large amount of auriferous deposits; and it is not uncommon for those who succeed them to reap the benefit of their ignorance, with little, if any, additional sinking.

The day for individual gold digging is nearly gone by; not that the gold is exhausted, but, in order to work it advantageously, a different method of mining must be adopted. It seems very remarkable that every branch of mining has, like man, its infancy, manhood, and old age; and gold digging is not as it was once, and latterly too, supposed, going to be an exception to the general rule. The present system of working will be ere long superseded by one more in harmony with the distribution of the auriferous deposits, and it will have to pass through the same phase of improvement as other branches of mining has done in England. Instead of innumerable small pits, which bring to mind the plan adopted in working the ironstone on the south outcrop of the South Wales coal field by the miners of the 17th century, patching upon the most improved plans will be necessary. Powerful pumping and winding machinery will be required, and even railroads and wagons to take the dirt away, besides reservoirs, on a large scale, to retain the water for sluicing. Provided with these, the result cannot fail to be highly lucrative for century or more to come; for notwithstanding the reiterated statements of those engaged that gold presents no regularity in its distribution, and, therefore, gold mining is, and always will be, a lottery, we feel persuaded, and, indeed, almost cer-

tain, that it is as regular as any other mineral, and that the day is not far distant when this will be made evident to all.

Although the Braulee diggings are not reputed to be as rich as others in the colony, yet it would be hardly possible to select any ground in and immediately adjoining the gold creek that did not contain more or less gold. The workable ground, nevertheless, runs in patches of 3 or 4 feet broad, and generally at distances of as many yards apart, along the south bank of the creek, and in the bed of the stream between the bars of strata that strike across. This apparent anomaly in the dispositional arrangement of the auriferous deposits, or rather gold, is adduced as a proof against its regularity, and although the explanation is not difficult, still those miners with whom we have conversed or, indeed, saw in and about the creek had not the remotest idea of it. "Gold regular in the earth, indeed!" they would say, "nonsense; we know better than any one else." And that doctrine will not go down. An attentive examination of the creek, however, leads to the fact that those patches of workable gold ground are invariably in a line with a gutter, formed by the protrusion of two beds of strata, more or less apart, that together form a shoot, as it were, along which the gold slides down to the bed of the stream, where the heaviest grains remain. This view is materially strengthened by that which has been previously adduced relative to the scarcity of gold in the beds of creeks in which the strata are parallel thereto, and to the course of the ranges, the gold being in those cases in a great degree restrained by the gutters, in which it is either deposited or moved slowly along to an outlet.—More anon.

After a short sojourn—a little more than a week—we left for the Muruya, in order to become acquainted with the geological structure of that region, and also to obtain some knowledge of the extent of its auriferous deposits.

[To be continued.]

## PHOTOGRAPHS FROM MANUFACTURING DISTRICTS.—No. XII.

**SELECTING MATERIALS FOR MANUFACTURE.**—Great importance should be attached to the experiments of chemists, and the results of their operations should be carefully considered by the manufacturers of hardware and machinery; yet it is but one of a thousand in the number of producers who ever attempts to try iron and steel on scientific principles. It is not intended by such a statement to undervalue the intelligence and wisdom of such an important body of men, but to show how custom has generally approved another kind of ordeal. The plan almost universally pursued is to examine the surface of the bar of steel, see if it be clear, the edges free from cracks, the grain fine and bright; then give the workmen a small portion to make into articles for which they think it suitable; but they generally observe the heat the steel is submitted to. It is much easier work to draw steel which will stand a heat next to a welding point; but the best steel may be completely spoiled by being over heated. If it be made into knife or razor blades they will generally crack in the water they are hardened in, or will break in the hands of the grinder; if files, they may pass through the regular processes, and prove useless to the mechanic, being completely worthless—from the teeth disappearing almost as soon as they are applied to any hard substance. It is unfair to report upon the quality of the steel from one operation, which may have been a very imperfect one; and had it been conducted by another class of workmen might have been successful. But if the work of several operatives corresponds, and goods look well and stand the practical tests to which they are put, that steel is judged suitable for the purposes for which it has been tried, and will be uniformly used; if the results are otherwise, no person should ever think of pressing the article upon manufacturers, for if arguments could be drawn from chemistry to recommend it they would be perfectly unavailing; not that manufacturers would dispute the necessity of proportionate elements, and the desirability of removing all objectional qualities from the steel they use, but cheapness in the material is soon counterbalanced by the cost of workmanship—in articles which break before they are finished, or prove so defective that they cannot offer them for sale.

The samples of cast-steel sent by Mr. Mushet to the office of the *Mining Journal* would not be despised by a practical manufacturer (at first sight, should they prove malleable). If bars 7 or 8 ft. in length could be drawn with the same sound appearance they would not be condemned by a host of practical men; but it frequently happens that steel is exported which looks well, and is returned in consequence of not suiting the purpose it is ordered for. When steel is fit for the export trade it becomes a source of profit, in consequence of large consumption; but it should be well tested in our home manufactures, which are sure to discover its value if it possesses any.

Mr. Mushet may be assured that practical tradesmen will not be satisfied with experiments made at Woolwich. Such results they will neither undervalue nor dispute, but they will afterwards try their own articles, which may be made from a new substance. From the appearance of the samples of cast-steel just mentioned, a practical manufacturer would not like to make files and edge tools from them; but they would probably answer well for spindles, and in that article would find a good market in Lancashire and Yorkshire. If cast in flat ingots, Mr. Mushet's steel would answer well for spades and hoes, which are extensively used in our colonies, and in the American States, ploughshares and harrow teeth, or any agricultural implements which are not required to meet a hard substance, for in such an instance it would very likely snap or break, and be more trouble grinding and wetting than the tool would be worth. It may be said that iron has generally been used for farming implements, but that is no reason why they should not be made of steel, then they would work much easier and last much longer: a large consumption of that steel might be calculated upon for miners' tools. But it should be remembered that material for boilers should be tougher than the steel in question could be expected to prove; and, therefore, though it might be a better conductor of heat, the safety of human life would not warrant such an experiment at present.

There is a possibility of our judgment being hasty in matters of discovery: we err in our instant laudations, and we may do the same by our negatives. Some years ago a practical chemist joined a business man in an invention to substitute ivory obtained from elephants' teeth by a preparation for the handles and scales of knives and razors. Their patent, though very desirable, was looked upon with incredulity and mistrust: they failed in the particular point at which they aimed, but a vast amount of articles of another kind have been introduced from the suggestive properties of that experiment. Let Mr. Mushet try the manufacturers, and he will then assure himself of the practical properties of the article which he seems to think his family only has been the means of discovering. Should he find any difficulty in selecting the right parties, and he may depend upon such practical suggestions as my experience can afford. It may be observed that if he thinks his steel would answer for cutlery purposes, no house in the kingdom would be so likely to satisfy him as Messrs. Mappin Brothers: their skill in business, their energy and perseverance are well

known, their practical acquaintance with the merits of every article they use is a high recommendation, as the following Photograph will show:—

In the fine cutlery trade the house of Messrs. Mappin Brothers maintain a very distinguished position, their practical acquaintance with all the ramifications of manufacture: their perseverance in the selection of a staff of superior workmen, and their success in every undertaking, has resulted in their great celebrity for elegant articles of cutlery, and for the most useful productions in knives, scissors, razors, &c. This firm, for a number of years, carried on business in Mulberry-street, Sheffield, and was well known in the town for the excellent workmanship which they displayed in all goods which bore their corporate mark and name. I well recollect the expression made use of by a good judge of hardware: speaking of Mappin's knives, he said—"They are so neatly put together that they seem as if they grew part to part. And if a man could work for them his efforts would please the firm of Rodgers and Sons, should he ever have occasion to apply there for employment." The consumption of steel by the firm of Mappin Brothers is very great, and the quality they use is the best which can be obtained. Refined cast-steel, shear steel, from the best marks, are the foundations of the articles they manufacture. The enterprise of the present firm is very remarkable: they have not only turned their attention to the perfection of every branch of their trade, but have studied the health and comfort of their workmen. The Queen's Cutlery Works, at Sheffield, which they built, afford every convenience, in well lighted and ventilated rooms, about fifty in number, where about five hundred persons are employed in the several branches of the cutlery trade. The vast establishment this house has opened at 67, King William-street, London, is some illustration of the resources they can command, and the capital and energy they employ. In the fine cutlery branch they use a large quantity of brass and other metals, as well as iron and steel, and consequently contribute largely to the encouragement of our various mining operations; but being manufacturers of electro-plate in the most beautiful and classic designs, they pursue a line of commerce honourable to their skill and industry, and largely contribute to the trading distinction of Great Britain. It is worthy of remark that ivory is used in large quantities for the handles of knives, &c.; and this valuable substance is brought to London for sale. In teeth of various sizes it is exposed in warehouses near the docks, and at the sales a single tooth will sell for 60s. Messrs. Mappin buy this article on a large scale, and cut it up on their premises, for the several purposes of their trade. It is well worth the attention of all who are interested in commercial transactions to examine the facilities of Messrs. Mappin Brothers in Sheffield and London, and their courteous behaviour and frankness in explaining the processes of manufacture cannot fail to ensure information and satisfaction.—JOHN BENNETT.

### GREAT WHEAL VOR UNITED MINES.

Abstract of documents relating to the purchase of Wheal Metal by this company. The legal surcharge, too, commonly used, is omitted, for the sake of brevity:—

No. 1.—Nov. 17, 1845: Mining lease from Charles Trelawny to John Vivian, Henry Harvey, and John Sylvester, for 21 years, from Dec. 25, 1842, of the mines within and under the lands of the said Charles Trelawny, being part of the manor of Treworline, situate within the several parishes of Breage and Sithney, in Cornwall, as therein after particularly expressed, that is to say—

Firstly, all the lands comprised within the following abutments:—On the north, the lands of His Grace the Duke of Leeds. On the west, a straight line drawn at a distance of 10 fms., parallel with the cross-course there, situate near a shaft called the Grey Ore shaft, from such abutment on the north to a post fixed 10 fms. south of the said shaft. On the south, a straight line drawn from the said post eastwards to another post fixed near a shaft called Highburrow shaft, thence to a shaft called Carter's shaft, and thence to another post fixed in the south-eastern corner of a close called Harbelize Croft, adjoining the lands of Sir Samuel Spry. On the east, the lands of the said Sir Spry. This is the property known as Old Wheal Vor. All which lands were in the map endorsed on the said deed, coloured green.

Secondly, all the lands (except as to the surface of so much as in the said map is coloured red, being the plots and dressing-floors, which it was declared should be used by the lessees exclusively for the general purposes of the mines and works) comprised within the abutments following, that is to say—On the east, the lands of Sir Samuel Spry. On the south, a straight line drawn from a post at one corner of Wheal Whidden bounds, near the eastern end of a cottage at Siltney Water, occupied by Thomas Rogers and of Sir John Buller Yarde Boller, Bart., and partly the road leading from Godolhoin to Breage Church Town. On the north, partly a straight line drawn from a post fixed in a field then in the occupation of Capt. Thomas Richards, being part of the tenement of Carleion, to the post before mentioned to be fixed 10 fathoms south of Grey Ore shaft, and partly the southern limits of the premises firstly described. All which secondly mentioned lands on the said map are coloured blue. This is the property then known as Poldown, and, with a slight alteration of the boundaries, called now Wheal Metal.

Thirdly, all the lands comprised within the following abutments:—On the west and north, the lands of the Duke of Leeds. On the south, the road leading from Ash Town to Brown's Vean. On the east, partly a straight line drawn from the said abutment. On the north, 10 fms. west of and parallel with the said cross-course in the premises firstly described, to the line mentioned as the partial limit to the north of the said premises, and partly the road leading from Godolhoin to Breage Church Town and the lands of Sir John Buller Yarde Boller, Bart. All which thirdly mentioned lands on said map are coloured yellow.

The lease then proceeded to grant the use of the engine-houses, stamping mill-house, and dressing-floors within the above limits, and particularly the use and enjoyment of the slime or leavings commonly termed the Flow, with full liberty to work and dress the same.

The lease, after containing the provisions and covenants relating to the working of the three different properties demised by it, with the usual power of revocation in default of performance of the covenants, concluded with the following recital and proviso:—<sup>14</sup> And whereas on the agreement for granting the liberties, &c., hereinbefore contained, it was arranged that the same in respect of the limits firstly, secondly, and thirdly, hereinbefore described, should be granted by three separate deeds of seal or grant, and that the covenants contained in each of such deeds should refer only to the limits mentioned in such deed; but in order to the saving of expense and the prevention of a multiplicity of deeds, it has since been agreed that the said liberties, &c., should be granted by one deed only, in manner hereinbefore expressed, and in order to carry out in effect the original intention of the parties thereto the following proviso should be inserted therein—that is to say, provided always notwithstanding anything hereinbefore contained, it is hereby agreed by the parties to these presents that any branch or non-performance of any of the covenants, &c., hereinbefore contained, so far as the same apply to the said limits firstly hereinbefore described, shall not apply to the said limits secondly and thirdly hereinbefore described. And the said liberties, &c., shall not be affected, nor these presents revoked or rendered void or voidable, so far as regards the same limits respectively, but that such last mentioned liberties, &c., shall continue in the same manner as if the same respectively had been granted by three separate and distinct deeds, in manner hereinbefore mentioned. And it was thereby further agreed that this proviso shall apply, *mutatis mutandis*, as well to the said limits respectively secondly and thirdly, hereinbefore respectively described, as to the said limits firstly, hereinbefore described.

No. 2.—June 14, 1852: Deed poll by Charles Trelawny recites the above indenture and proviso, &c., that the said workings within the limits firstly and thirdly, hereinbefore and in the said recited indenture described, were not then, and had not been for a considerable time past, carried on in accordance with the covenants in the said indenture contained, and proceed:—Now, therefore, in pursuance of the power reserved to me, the said Charles Trelawny, by the said indenture, I, the said Charles Trelawny, do, by this instrument in writing by me, executed in the presence of and attested by the person whose name is hereunder written, revoke, &c., all and every the liberties, &c., by the hereinbefore recited indenture, granted to the said lessors, so far as the same relate to the limits firstly and thirdly, hereinbefore and in the said recited indenture described.

No. 3.—Oct. 4, 1852: Extract of letter from Mr. Charles Thomas (toller to Mr. Trelawny) to Mr. Frederick Hill, of Helston (Mr. Trelawny's solicitor):—At the first meeting which I attended at the mine, to determine the limits of the several sets, I understood that all parties consented to the cross-course receding 10 fms. on east side, being the boundary of the three sets—viz., the old mine, Carleion, and the Poldown (now called Wheal Metal), the latter being now worked by the old adventurers. When I came again on the mine, to mark out the limits, Capt. Blight objected to my impression, and said that the old adventurers had only given up the Sogen lode so far west as the cross-course; and on my communicating this to Mr. Stephens (Mr. Trelawny's agent), he said that it was a full and distinct engagement. And that he, Mr. Stephens, had made a note of it on the spot, that the whole of Sogen lode should be surrendered by the old adventurers, to be added to the Old Wheal Vor and Carleion Mines. This certainly is the most natural division, and one which I suppose Mr. Stephens will insist on, but I think you had better write to him.

No. 4.—Dec. 8, 1857: Extract of letter from Mr. Charles Thomas to Mr. Frederick Hill, in answer to an application for a remission of dues:—He (that is, Mr. Trelawny) does not wish to throw any obstacle in the way of carrying out to the full your proposition, made at Holston, as to the whole of the old mine, including Trueman's lode. Wheal Metal stands altogether in a different position—a distinct and separate sett, was held by another company, the Hayle gentlemen, after Mr. Crease had commenced operations on the old mine—has no connection with the old mine—and has been, and still is, a mine that no company holding that mine alone would think of requesting an abatement of dues on.

No. 5.—Oct. 19, 1852: Valuation of materials, &c., at Wheal Vor, &c., of the tin in the Flow, by William Gata, Mark Reed, William Teague, and John West:—

Materials valued by Messrs. Gata, Reed, and West..... £3972 7 6

Ditto by Messrs. Gata and Teague..... 487 19 6

Valuation of tin..... 3589 4 7 = £2040 11 7

Note by Mr. H. P. Crease:—The covenants in Wheal Metal must be deduced in fixing a price to offer the Wheal Vor Consols adventurers, 2004, a month—two years 48000. Offer £50000. for it. The tin also is charged 40/- ton—should be 35/- per ton.

No. 6.—Nov. 3, 1852: Extract of letter from Mr. H. P. Crease to Fred. Hill, Esq.:—The valuation and your favour have arrived quite safe. We are not disposed to advance the money asked by Messrs. Harvey and Co., or the other company (Sandys, Vivian and Co., of Hayle). I think the course they have taken unworthy of them. With the Wheal Metal covenants, it is far beyond its value. We are thinking of confining ourselves to the old No. 1 sett and No. 3, and the ground to the north, and getting all the money called up at once, and buying the old adventurers out with the funds of the company, instead of putting our hands into our own pockets. We have consulted our friends, and this is what we all think. Then we shall be willing to buy them up at their own figure."

No. 7.—Nov. 3: Extracts of letter from Mr. H. P. Crease to Mr. Robert Stephens:—

\* That is, Penhale, Pollard, Polrose, and Sperton, held of the Duke of Leeds, Mr. Popham, and Sir J. Yards Buller respectively.

We have communicated with our friends, and find them indisposed to embark in litigation of any kind. We, therefore, wish you to make the sets from Mr. Trelawny of Nos. 1 and 3, according to the limits of the old deed, omitting any allusion whatever to the proposed new arrangement, and merely making the ordinary mining covenants, except that about the engines in the draft you now have of No. 1, which might be retained, giving us six months extra to try and effect an arrangement with the old adventurers. [Dues, £3600 for No. 1; £2400 for No. 3.] Omitting also the covenant for quiet enjoyment, substituting in its stead a deed of indemnity of even date, containing provisions as hereinbefore mentioned. The No. 1 sett to contain a proviso that we shall not assign that sett without Mr. Trelawny's permission. The indemnity should be drawn in my name and my brothers', making us covenant for ourselves and our fellow-adventurers to indemnify Mr. Trelawny against all claims, &c., which may be made under the old lease. All expenses, &c., in maintaining these new points to be deducted out of dues of Mr. Trelawny arising from these two sets. To contain a power of attorney to use Mr. Trelawny's name, &c., in defending our title to the sets. Also an indemnity in Mr. Trelawny against loss by stoppage of water for the Flow. All expenses on this head to come out of the dues of Flow No. 2, should we get it. By this means we shall entirely avoid litigation, as we intend to have the whole of the money subscribed, and then buy the old adventurers out (however little deserving it) at their own price. Our indemnity to pay this is the assurance we have from you of having the Flow for 21 years, at 1-15th dues, separate from No. 2. Probably also No. 2, at a greatly reduced rate—say, 1-30th or 1-24th. I hope Mr. Trelawny will not receive any rent from the old adventurers on account of No. 1 sett—[on which they then occupied the counting-house by permission]. I pray lend your powerful aid to hasten this, as our people are very impatient about it, and I should not like to see their ardour cool."

N.B.—The friends so often referred are stated by the Messrs. Crease to have been especially Mr. Traeman and Mr. Schneider, with whom the preliminary negotiations for the formation of the present company were carried on.

No. 8.—Nov. 25, 1852: Extract letter from Mr. Frederick Hill to Mr. E. Crease:—I find that Mr. T. Rogers is trying to get up a party to buy the shares in Wheal Vor, and says he will give thousands more than you have offered. I went, therefore, to Hayle to-day to see Mr. Pool, and find he is quite staunch, but requires a pledge, which I gave him, that you would not pay a higher price to others than to those who now proposed to sell. I scarcely think you attach sufficient importance to the passage of No. 2. I would urge you to buy up a majority at once, and whip out the minority."

No. 9.—1852: Draft lease, from Mr. Trelawny to Messrs. J. Vivian and —, or Wheal Metal, with its present limits, as mentioned in Mr. C. Thomas's letter of Oct. 4, 1852, together with the use and enjoyment of the slime or leavings, commonly termed the Flow, with full liberty to work and dress the same, and a stipulation for the supply of 400 gallons of water per minute for the supply of the floors on the land therein described.

No. 10.—Nov. 27, 1852: First meeting of proposed committee of Wheal Vor United Mines at Mr. Trueman's Chambers, 1, Royal Exchange-buildings, and settlement of prospectus.

Dec. 9: Publication of prospectus in Supplement to *Times* newspaper.

Extracts from such prospectus, showing that Wheal Metal is not included, as of course, it could not be, as it was the property of a separate and distinct company:—These mines, formerly worked with so much advantage, are situate chiefly in the parish of Breage, near Helston, in the county of Cornwall, embracing Old Wheal Vor, Carleion, Pollard, Polrose, and other mines, in the grey slate formation, adjoining the granite, and constitute a continuous run, above two miles long by one broad, of ground which long experience has proved to be one of the richest mineral districts in the world."

N.B. The words "other mines" include Penhale and Sperton, held respectively of the Duke of Leeds and Sir J. Yards Buller. (See Report of Committee of Investigation, Appendix III.) They are held at the very moderate dues of 1-36th for the principal portion of the ground, and 1-24th for the remainder.

N.B. Wheal Metal is held at 1-15th.

"The mines during the whole term of the former workings, and up to the time of the cessation of the works, yielded large profits."

"The official returns from the ore books show that during the last workings," &c.

"The causes which about eight years ago led to their being stopped."

"(N.B. Wheal Metal was then and had always been at work.)

"(N.B. Estimate of cost for machinery includes stamping and crushing. But the old stamp heads were then at work on Wheal Metal, and continued to be used after it was bought by the company.)

Effect of such prospectus relating to the consideration to the grantees:—

They (the adventurers) will acquire extensive works, far exceeding in value £50,000, to be given for them. 50,000/- (out of capital of 200,000/-) will be the consideration to be given to the grantees, of which sum 7000/- will be paid in cash, for the immediate expenses incurred by them, and the remaining 43,000/- will be paid in 43,000 paid-up shares, which will remain under the control of the committee until dividends have been declared to the amount of 10/- per cent. on all the shares of the company.

No. 11.—Dec. 8, 1852, and Jan., 1853: Particulars of purchase of 48-49ths of Wheal Vor Consols by Mr. F. Hill, of Helston, who previously held 1-19th, or 3-12ths of one share. These are by deeds of sale at various dates between Dec. 10, 1852, and Jan. 28, 1853; 1729/- having been paid to the official assignee of T. and J. Gundry; 1195/- to Messrs. Sandys, Vivian, and Co.; 1123/- to Messrs. Harvey, &c., and others sums to other vendors.

No. 12.—Jan. 19, 1853: Payment by Mr. Augustus Vansittart to Messrs. H. and E. Crease of 8000/- for the purchase of Wheal Vor Consols, on a guarantee by Mr. Vansittart and Messrs. H. and E. Crease of 2000/- each, secured by their respective bonds. (Mr. Vansittart being at present in Italy, no actual documentary proof of this transaction can be adduced beyond that contained in the draft agreement between him and Mr. Vansittart Neale, stated below.)

No. 13.—Account taken from statement made by Mr. Edward Crease of the application of the 8000/- by Messrs. Crease, being the purchase-money received by them from Mr. Vansittart:—

Jan. 29, 1853: Paid Mr. F. Hill, for advance made by him Dec. 8, 1852, for purchase of shares in Wheal Vor Consols, a £3911 0 0  
For interest on above advance, from Dec. 8, b 200 0 0  
" " For procreation (to Mr. Hill), c 25 0 0  
" " Sundry payments and expenses (to Mr. Hill), d 275 0 0  
" " For purchase of Messrs. Gundry's shares (to Mr. Hill), e 1729 0 0 = £6210 0 0  
For purchase of Pascoe's shares (to Mr. Hill), f 535 10 0  
" " For services, in lieu of bill (to Mr. Hill), g 300 0 0  
Apr. 18, 1853: Paid Jas. Ellis, receiver of Sylvester estate, g 76 10 0  
Paid Mr. Thomas Martyn, mining captain, for various services in these matters ..... 500 0 0  
Balance in Messrs. Crease's hands, for their own expenses 178 0 0

Total ..... £3600 0 0

Vouchers for the last above-mentioned account:—

No. 14.—Jan. 29, 1853: Letter from F. Hill to Messrs. H. and E. Crease:—I send you transfer of 45 shares in Wheal Vor, and undertake to execute an assignment by deed whenever required so to do. I have to acknowledge the receipt of 6210/- in payment of the above shares, and of 535 10/- in payment of the shares contracted to be sold to me by Messrs. Pascoe, which I undertake to re-transfer and assign to you.

Same date.—Account containing the items above, marked a, b, c, d, e, f, g, and amounting to 6210/-

Same date.—Letter from F. Hill to E. Crease:—I beg to acknowledge and thank you for cheque for 500/- for my services, in lieu of my professional bill in relation to Wheal Vor to this time."

The salary of purser forms the subject for future consideration.

Same date.—Letter from F. Hill to H. P. Crease:—I have the pleasure to inform you that I have this day received the assignment of Gundry's shares for 1729/-, instead of 2907/-, and I have transferred these and the other shares in my name to yourself and brother. Thus everything has succeeded to our satisfaction, and I hope soon to see you at Wheal Vor, when we may laugh at what took place when we were last there. Your brother has been good enough to make me a handsome pecuniary acknowledgment of my services, for which I beg to thank you. It is a satisfaction to me that you can do this out of what would have paid the assignees."

No. 15.—Jan. 29, 1853: Cheques drawn by Messrs. Crease in favour of Mr. F. Hill for 6745/-, 10/-, and 500/-, respectively—7245/- 10/-

No. 16.—Jan. 28, 1853: Letter from Mr. Thomas Martyn to Capt. Crease, R.N., in answer to an enquiry as to the alleged payment of 500/- to him:—In answer to your favour of the 26th inst., I beg to say that I received 200/- in cash and 300/- free shares as an equivalent for services to Messrs. H. and E. Crease, in assisting them to get the different sets of Great Wheal Vor. Also for the above-named amount I transferred Carleion sett from myself, through Mr. Robert Stephens, of Plymouth, in favour of Messrs. H. and E. Crease, including all expenses incurred by me in working Carleion. I have made it over to Messrs. H. and E. Crease.

No. 17.—Feb. 2, 1853: Indenture between F. Hill and H. P. P. Crease and E. S. Crease recites that F. Hill is possessed of 45-49ths parts in all those tin and copper mines, called the Wheal Vor Consolidated Mines, and that he "was" possessed of the same as a trustee for and on behalf of the said H. P. P. Crease and E. S. Crease, and that the same were purchased by the proper monies of the said H. P. P. Crease and E. S. Crease; and transfers to H. P. P. Crease and E. S. Crease the same 45-49 shares in the said tin and copper mines, and in all the ores, engines, whisms, tools, implements, and materials, and other the personal estate and effects whatsoever belonging to the said mines.

No. 18.—Feb. 15, 1853: Certificate, by F. Hill, of transfer to the Messrs. Crease, of 3% additional shares in Wheal Vor Consols.

No. 19.—Feb. 15, 1853: Circular from H. and E. Crease to subscriber for shares states to the effect:—That the committee had succeeded in raising only 50,000/-, in lieu of the 150,000/- originally asked.—That in the original prospectus provision had been made for working a copper mine, which had not been named, because not absolutely in their possession, and which had now passed into other hands.—That the present capital of 50,000/- would be sufficient to work the mine.—That arrangements were in course of completion for obtaining possession of that portion called the Flow, or halvans which lies on the surface, various engines, and other machinery and material, with very extensive refuse tin ores of the old workings, which in themselves were valuable property, and alone would yield a fair remuneration on the whole capital, and had been worked at a profit for a very small expenditure up to the present time.

No. 20.—March 15, 1853: Deed of transfer by James Ellis, jun., of last remaining half-share in Wheal Vor Consols to H. P. P. Crease and E. S. Crease.

No. 21.—April 18, 1853: Extracts of letter from F. Hill to H. P. P. Crease:—I send you the transfer from Mr. James Ellis, which completes the purchase of the entire mine, and I heartily congratulate you thereon. As you have the cost-book, you can, after acceptance, enter it. Our sets go to-night to Messrs. Wharton and Ford (the Duke of Leeds' solicitors). Stephens asks me to send him the old sett surrenders of No. 2; this I shall not do till I know the new sets are in your hands.

No.

## SUPPLEMENT TO THE MINING JOURNAL.

at account, it would be difficult to say that three or four, or even more, years of quiescence in the account so rendered would bind the shareholders. Here, if there is no concealment, there was no publicity, since no statement of accounts to justify the payment of no more than 10s. per share was made to any of the shareholders; and the books, if open to their inspection (which I think was the fact on the evidence before me) were not so in all cases without difficulty; and in the case of the plaintiff, application made by him personally for that purpose, was refused. In addition to this, a sum substantially for the same purpose, was paid in July, 1846, which was not disposed of till February, 1851— $\frac{1}{2}$  years before this bill was filed. Under these circumstances I cannot think that time alone can constitute any bar to the plaintiffs' right to an account, however justly it might do so in a case where the accounts had been rendered, inspected, not objected to, and no error or defect subsequently assigned in respect of them. Such, certainly, is not the case before me. Not only had no account been rendered before the institution of the suit, but now it appears, on the examination of them, that a sum exceeding 9975/-, which had been advanced as a deposit money, shares taken by 14 shareholders, in order to comply with the standing orders of the House of Lords, and which very sum had, in contemplation of the resolution of the shareholders to proceed with the project, been set apart as forming a part of the assets of the company, in the report of June, 1846, on faith of which the shareholders determined to proceed with the bill; it appears, I say, that this very sum had not in fact been treated like the other assets of the company, but had been paid in full to the 14 shareholders who had subscribed for these additional shares, to the person who had supplied them with the money for that purpose. It did not require the high authority of Sir Richard Kindersley, in the case of Clement v. Bowes, to establish that this is a proceeding which can never meet with any sanction of a court of equity. To hold that the holders of these additional shares were entitled to be repaid in full the deposits paid in respect of them, would be to sanction a general breach of trust, and an act of gross partiality, unless the other shareholders are to be paid in full the deposits advanced by them. To hold it to be a mere colourable subscription, or a nominal taking of shares, and that the money was advanced as a mere loan, in order to comply with the exigencies of the standing orders of the House of Lords, would be to lay down that a direct and positive rule from the House of Lords could be countenanced, upheld, and treated as valid in this Court. Besides which, in addition to the fraud upon the Legislature, a direct fraud would be thereby perpetrated upon the other shareholders, who were ignorant that this was intended to be a mere loan, and who were assured by the report that if they proceeded this sum could be treated as part of the assets of the company; and it should be observed that this remark, as to the deception practised on the other shareholders, applies not only to those who attended the meeting of June, 1846, but also to all those who abstained from attending it, who may fairly be presumed to have stayed away in consequence of their acquiescence in the resolution which the shareholders would adopt, after reading the report which has been circulated among them. I am, therefore, unable to regard this transaction in any other light than that the managing committee have sought fit with respect to certain shares belonging to certain shareholders to treat in a different way from the shares of other shareholders similarly situated, and at they have repaid in full the amount of their deposits, whilst to the others they have only returned one-fifth of their deposits; and what makes the transaction worse is that the shareholders so favoured are not the most part—namely, eleven-tenths—themselves. It is, on the whole, a transaction which, in my opinion, does not bear stamping in a court of equity, and which this Court cannot fail to strike reprobation and to redress by all the means in its power. So far, therefore, as the shareholders are concerned the plaintiff's are entitled to relief, and time offers no bar to their title.

I come now to consider the objections to the suit which I have referred to, and which do not consist in the merits of the case. This first is not so much as an objection to the suit as it is brought forward as a reason why the Court should be averse and averse to discover any technical reason to defeat it, inasmuch as the suit is not substantially brought by the plaintiff for relief, but is instituted for costs by persons other than the plaintiff, and which persons have already shown their disposition to its effect, in the suit of Appleby v. Page, which was for the very same matter, and which was stopped by a compromise in 1851, and the conduct of the solicitors in that suit, who are the solicitors of the plaintiff in this, is referred to in corroboration of this statement. It is, then, strongly and properly urged that this Court is bound to protect persons against the injury arising from the stirring up of quarrels and law suits, and that it ought to repress every tendency to that offence which is called in legal language bairamy, and which has been disengaged in this country from all time, and some of the earliest statutes inflict penalties upon persons found guilty of it. I must not admit that on hearing the evidence respecting what occurred in the suit of Appleby v. Page, and the cross-examination of both the plaintiffs in this case, I think it highly probable that this suit has, in a great measure, been encouraged and possibly been instigated by the plaintiff's attorney. But I have not, in consequence having come to this conclusion, considered myself entitled to view this case in any different manner than in which I should have to regard it had I come to an opposite conclusion. It is extremely difficult to draw the proper boundary between advice, encouragement, and instigation of a client to institute a suit; and all these may proceed from an earnest desire to redress the wrongs suffered by a poor and unfortunate person. If the suit be substantially that of the attorney, and the client can neither gain nor lose by it, a very different state of considerations arise; but upon the evidence before me this is not the case. Neither can the Court properly weigh the evidence with regard to any knowledge it may possess of the character of the actors derived from other suits. It is, I apprehend, the province of a court of justice to hold the hand evenly between all persons. It may be difficult, no doubt, when the case does not feel influenced by the reflection that the Court is giving property to one who has already a superabundance of it, and taking away from one who can ill afford a penny; that it is making a decree in favour of a person of bad character, and against one of the most unimpeachable reputation; but it is the duty of the Court to shut its eyes to all circumstances other than those which belong to, and are established in, the case before it; and it was a wise provision of our ancestors which, among other advantages, by various circuits of judges, prevented as much as possible the case of an innocent suitor from suffering from prejudice that might attach from his having unwittingly employed as his attorney a man who had usually been found conduct a creditable case. When the Court is unavoidably possessed of the knowledge which results from such experience it becomes doubly its duty to watch the feelings which arises, and prevent itself from being led away by what appears to be the impulse of an honest zeal, but what in truth may really be only the bias of prejudices, and tend to a denial of justice. The case which the Court has to determine is the cause of the plaintiff and the defendant. Their right must depend on the facts alleged and proved before the Court. It ought not to depend upon any extraneous circumstances which, in the opinion of the Court, justly or unjustly may attach to their legal advisers. On the evidence before me I am satisfied that this is a suit in which the plaintiff will be liable, if they fail, to pay what will be decreed against them, and that they will receive what, if anything, they shall be found entitled to. It is true that the amount in question, so far as regards the plaintiff, is extremely small—so much so, that, as far as I can estimate, it will not exceed the sum of 227. 10s. in favour of either. But if, on such a ground as that, I were to allow the defendant to keep 9000/-, which they have improperly retained or paid to themselves, I should be endeavouring to establish the doctrine that provided the amount taken was small, although the number of victims was great, the perpetrators of the fraud would remain secure in any Court of Equity; but such a decree would never be followed, even if it were allowed to remain unreversed.

I come now to consider the circumstances arising from the constitution of the suit in which the plaintiffs rely. The objections taken by the defendants may be stated thus:—First, that the bill is defective, by reason of the absence of the defendants Dabbs and Raworth, two of the original defendants on the record, against whom the bill has been dismissed; secondly, that there has been a misjoinder of the plaintiffs: for that the plaintiff Williams has received 10s. per share, and that, therefore, he cannot complain of that transaction, or dispute the propriety of that payment as in full of all claims of the provisional directors; thirdly, that this is a suit instituted principally to contest the propriety of the repayment of the 9975/- in full to the 14 shareholders who took the 3800 additional shares; that it is a bill by some of the shareholders on behalf of themselves and all the shareholders, other than the defendants; that the 14 shareholders who subscribed the 3800 additional shares, 11 only are represented on the record; and that the remaining three must, therefore, be treated as plaintiffs, and that this, therefore, is a bill by three amongst other plaintiffs, who ask that the transaction by which they get paid in full may be annulled, and that consequently they must be made defendants, as having an interest adverse to that of other plaintiffs. I will consider these objections *serialiter*.

In support of the first, it is urged that, although the plaintiffs might possibly have sustained this suit without making Dabbs and Raworth parties, yet that having elected to do so, they must keep them, or their representatives, on the record, upon the principle that I followed in the case of the London Gas Light Company against Spotswood, in the 14th volume of Mr. Beavan's Reports,—that if a plaintiff elects to proceed against all the trustees, he cannot afterwards waive his relief as regards one or more, and proceed solely against the remainder. In truth, however, this principle has, in my opinion, no application to the present case. Assuming that Messrs. Dabbs and Raworth had acted throughout as members of the provisional committee, and that they had made or sanctioned the retention and payment of the 9975/- in question, the argument would be well founded, and the objection valid. But, as in my opinion appears on the evidence to be the case, these defendants did not so act, and consequently their interest was rather with the plaintiffs than the defendants, and no liability to account existed as against them, then I think that the bill was properly dismissed as against them by the plaintiffs, and that the other defendants cannot complain of this having been done; and accordingly Mr. Lloyd very logically, in the view that I take of this objection, endeavoured to establish the impropriety of their dismissal, on the ground that their liability to account as provisional directors could not now be disputed, inasmuch as the bill had alleged that liability to account; but the bill was verified by affidavit; that the facts so alleged and verified had been admitted to be true by the defendants other than the two in question, and that, therefore, it was not competent to the plaintiffs now to allege the contrary. But I do not think that, by reason of these circumstances, alleged as against Mr. Lloyd's client, in a matter not expressly put in issue between them and the plaintiffs, those defendants are entitled to say that the plaintiff is stopped from relying on the facts, as they appear in evidence, as to that matter which is in issue between the plaintiffs and the other defendants; and the more especially as this argument is not used for the purpose of giving Mr. Lloyd's clients any rights against those other defendants, but for the purpose of supporting a technical objection to the relief to which the plaintiff would otherwise be entitled.

The second objection, as to the misjoinder of the plaintiffs, is answered by the case of Clement v. Bowes, and the decision of Vice-Chancellor Kindersley in that case. In truth, that case is an authority to bind me on the present occasion, and in which I also fully concur. Neither is it, in my opinion, affected or weakened by the decision of Vice-Chancellor Wood, in the case of Williams v. Salmon, to which I will also refer. Clement v. Bowes was a suit instituted by one of the share or scripholders of the Hull and Lincoln Railway Company, on behalf of himself and all other shareholders other than the defendants, against the finance committee, praying an account of their receipts and payments on behalf of the company. The bill stated the proportion of the scheme and its registration; that there were 2500 shares, of 20s. each, and a deposit of two guineas per share; that the plaintiff took and paid deposits on 500 shares. On Feb. 4, 1846, 26,250/- was deposited with the Accountant-General, in conformity with the standing orders of the House. The bill was thrown out, and the project was abandoned. The finance committee managed all the affairs of the company, sent an account to each shareholder, and offered to return the 17s. 6d. per share. The defendants, in their answer, accounted for the whole of the deposits, with the exception of thirteen sums of 210/- each, which they said were a loan by thirteen shareholders, made for the purpose of complying with the standing order of the House of Commons, and which were, consequently, repaid in full. The Vice-Chancellor held that these sums must be treated as assets of the company, to be distributed *pro rata* with the other funds, and that the thirteen shareholders were not entitled to receive their payments back in full. He held, first, that the circumstance that the plaintiff might have applied under the Winding-up Act was no objection to that suit; secondly, that the 49th sec. of 15 and 16 Victoria removed any defect that might have

\* The plaintiffs (together) took 100 shares, and paid thereon 2627. 10s., or 22. 12s. 6d. per share, deposit.

remained with respect to misjoinder; thirdly, that the persons comprising the committee of management, were not necessarily parties to that suit; and, fourthly, that the fact that the 17s. 6d. had been paid and received on behalf of their shares by many of the shareholders did not give them an adverse interest to the rest of the shareholders, and he made a decree for all account, declaring that the defendants were entitled to credit for 17s. 6d. per share paid by them. This case bears a striking affinity to the suit before me, with this exception, that the third objection, for want of parties, to which I shall presently refer, was not taken, and (as I understand the case) did not arise in that suit. This decision, which is, in my opinion, in striking accordance with the principle of equity administered in this Court, is not intended to be disputed by Vice-Chancellor Wood, in the case of Williams v. Salmon, and is not in my opinion, affected by it. That suit was one very peculiar in its circumstances. It is reported only on the question of parties, on which alone the reasons of the judgment were given. But the Vice-Chancellor expressly states that, in his opinion, the plaintiff had no merits. The case was this—it was a bill filed by the plaintiff, on behalf of himself and all others the holders of scrip and shares in the Boston, Newark, and Sheffield Railway, which failed. The subscribers' agreement provided that a deposit of 2½ guineas should be paid on each share taken by him, and that whether the Act should be obtained or not, each of the subscribers out of the deposit money should indemnify the trustees against all losses and expenses then or thereafter to be incurred. The trustees returned three instalments to the shareholders, amounting altogether to 17. 14s. per share. The plaintiff and the other shareholders accepted the two first instalments, amounting to 17. 12s. 6d., but refused to accept the final instalment of 1s. 6d., and the plaintiff filed his bill for a common account, not alleging any misconduct or error in the accounts. The Vice-Chancellor held, that since the directors were entitled to indemnify out of the deposits, and as the result of opening the account, might be that the plaintiff, and persons similarly circumstanced, had received more than they were entitled to, and that they would, therefore, have to refund; that in that event the persons in the situation of the plaintiff, on whose behalf he was suing, and who represented 7000 shares, must be made parties personally; and the Vice-Chancellor also held, as I have stated, that the plaintiff had no merits, and dismissed the bill with costs. On appeal, the defendants having offered to repay the plaintiff his instalments in full, without prejudice to the question of costs, which was to be left to the Court, the Lords Justices expressed no opinion on the right to the account, and awarded to the defendants 300/- in respect of the costs of the suit from the plaintiff. The distinction between that case and the present are obvious. In the first place, there is an absence of allegation of any gross fraud, or misconduct, or partiality against the plaintiff, which is proved in the suit before me, in the second place, here no accountant at all have been rendered; and, thirdly, no such indemnity clause exists in the subscription contract. In the present case, it is morally a covenant on the part of the persons subscribing to the suit, to have carefully ascertained how and to what extent each of them had acted; nor was this a matter of any difficulty, as all the evidence on which either side relies—indeed, all the evidence on the subject—is consistent with, and confirmatory of, the entries which appear in the minute-book of the company, to which the plaintiff might have obtained access, certainly immediately after the institution of the suit, and for ought that I have heard, I believe at any time they thought fit. The plaintiff Williams, at least, inspected the books and accounts as he pleased; and although the other plaintiff was refused to be allowed to examine the accounts on his personal application, it does not appear that he ever did, or did not do so he would have been refused. The bill will, therefore, be dismissed as against the defendants Bradley, Curtis, Sharman, Joyes, Haddon, Elgood, Day, Cottle, and Thorne. I am sure I have left out the name of Porter altogether.

Mr. LLOYD: We will take care to cure that. I think he stands in the same class as the other defendants.

The MASTER OF THE ROLLS: As regards the other defendants, the cause will be directed to stand over, with liberty to the plaintiff to amend by adding parties defendant thereto, the persons to whom I have already referred, or their representatives; but their names ought to be mentioned in the order, because I do not give any more extensive power.—Mr. LLOYD: Of course.

The MASTER OF THE ROLLS: As regards the other defendants, the cause will be directed to stand over, with liberty to the plaintiff to amend by adding parties defendant thereto, the persons to whom I have already referred, or their representatives; but their names ought to be mentioned in the order, because I do not give any more extensive power.—Mr. SELWYN: I will not do so for an enquiry.

The MASTER OF THE ROLLS: I shall make the decree against your client.

Mr. SELWYN: I seek for no enquiry.

The MASTER OF THE ROLLS: If you insist there is no evidence.

Mr. SELWYN: Your Honour understands that, after the judgment, I do not consider it respectful to the Court to insist upon anything. Your Honour having decided it, I do not ask for an enquiry.

The MASTER OF THE ROLLS: I do ask the question, and I think it necessary that it should be answered. I mentioned it at the time when the cause was heard, and, therefore, I give you an opportunity of doing it, for the purpose of considering the case, if it goes further. If you insist that there is no evidence before me, then I shall of myself direct the enquiry; and if the enquiry turns out against you, I shall make your client pay the costs of it.

Mr. SELWYN: That relieves me from all apparent want of respect in saying anything after your Honour has pronounced your judgment, which certainly I should be most unwilling to do. What I say is that there is no distinction between the cases of C— and R—, and there is no particular act of fraud or improper payment alleged at all. It is merely a bill for a general account; therefore, as against my client, assuming him to have been a member of the committee of management, nothing is alleged. He has gone into no evidence. There is no allegation against him, and all that is brought forward is extracted from the examination of the other defendants. I say there is not only no evidence against him, but there is not even an allegation.

The MASTER OF THE ROLLS: And that he has not had any opportunity of meeting the case.—Mr. SELWYN: I ask for no enquiry.

The MASTER OF THE ROLLS: Still I think he must have known the facts. I shall, in the case of your silent, direct an enquiry. I shall retract the observations I made with respect to the costs. I shall see how that enquiry turns out. I forget the name of Mr. Selwyn's client.—Mr. SELWYN: Sir Edmund Antrobus.

The MASTER OF THE ROLLS: I merely make this note for what may take place when it comes back again. I shall direct an enquiry, to ascertain whether he acted as a member of the committee of management, and whether he did subscribe for any of those shares, and receive any portion of the money, and whether he sanctioned the payment thereof to any of the others.

Mr. SELWYN: My learned friend will understand that is not my request.

Mr. SELWYN: Your Honour will not do that now, because the case stands over.

The MASTER OF THE ROLLS: No.

The MASTER OF THE ROLLS: It is desirable that the persons you make parties should know the view I take of this case, because, if it had not been for that, I should simply have said that this objection for these three persons was a fatal one, and allowed it to stand over, leaving all the parties completely in the dark what my view of the case was; but I thought it was likely to tend more for the repression of litigation in this case to state fully what my view was of the case, in the same manner as if I had all the parties before me, in order that they may be guided as to the course they take.

Mr. ROUNDELL PALMER: Your Honour will not understand me as acquiescing in the view my friend takes, that there was no evidence against his client. We read an affidavit which we conceive to be evidence. I think it is much better that it should be taken with the enquiry your Honour has suggested.

The MASTER OF THE ROLLS: Yes.

evidence, I will direct an enquiry for that purpose, upon their insisting that there is no evidence against them; but if it turns out that they are liable, I shall make their estates pay the costs of such enquiry, because it was a fact that they were bound to have knowledge of from the evidence within their power. With respect to all the other defendants, except those who are out of the jurisdiction—Stanbury and Cochrane—this case, in my opinion, wholly fails.

Mr. ROUNDELL PALMER: Your Honour will excuse me for interrupting you. I do not recollect that your Honour has mentioned the name of Porter: he is one of my friend Mr. Lloyd's clients. I think your Honour has overlooked that name. Your Honour will permit me to read the names of Mr. Lloyd's clients—Page, the two Cobbolds, Welethead, Ransome, Porter, Callis, and Hewitt.

The MASTER OF THE ROLLS: I have omitted Porter, but I may be right about that, from what Mr. Lloyd said. I do not recollect the facts.

Mr. ROUNDELL PALMER: There is no distinction between his case and the others at all. He took a part of the 9000 shares, and he was one of the managing committee.

Mr. LLOYD: Probably your honour will allow me to mention the circumstances, which are rather singular, with regard to Porter. He is dead, and I believe they attempted to revive against his legal personal representatives. They did revive, and there has been accidentally no appearance by those representatives, so that in truth they are not present. I do not think we should take any advantage of that.

The MASTER OF THE ROLLS: They will come into the same situation as those with respect to whom I allow this case to stand over.

Mr. LLOYD: No doubt anything that is necessary to be done to cure that irregularity we should be willing to accede to.

Mr. ROUNDELL PALMER: He joined in the answer: he lived long enough to answer.

Mr. LLOYD: No doubt there is that is irregularity, that his representatives have not actually appeared.

The MASTER OF THE ROLLS: I seem to have omitted his name, but I see in the printed list before me that I have down your having appeared for him, Mr. Lloyd. I think it unnecessary to go through the details, and their greater or less participation in the affairs and management of the company. Some of them were never provisional directors, and the others acted a very short time, and withdrew before the project was matured, or its extent finally settled. None of them were directors or members of the committee at the time of the transaction in question, or sanctioned the proceedings complained of, or the retention of the money advanced to comply with the standing orders of the House of Lords. Against all these defendants the bill must be dismissed, and the plaintiffs must pay their costs. The plaintiff's ought, before making these persons parties to the suit, to have carefully ascertained how and to what extent each of them had acted; nor was this a matter of any difficulty, as all the evidence on which either side relies—indeed, all the evidence on the subject—is consistent with, and confirmatory of, the entries which appear in the minute-book of the company, to which the plaintiff might have obtained access, certainly immediately after the institution of the suit, and for ought that I have heard, I believe at any time they thought fit. The plaintiff Williams, at least, inspected the books and accounts as he pleased; and although the other plaintiff was refused to be allowed to examine the accounts on his personal application, it does not appear that he ever did, or did not do so he would have been refused. The bill will, therefore, be dismissed as against the defendants Bradley, Curtis, Sharman, Joyes, Haddon, Elgood, Day, Cottle, and Thorne. I am sure I have left out the name of Porter altogether.

The MASTER OF THE ROLLS: As regards the other defendants, the cause will be directed to stand over, with liberty to the plaintiff to amend by adding parties defendant thereto, the persons to whom I have already referred, or their representatives; but their names ought to be mentioned in the order, because I do not give any more extensive power.—Mr. SELWYN: Of course.

The MASTER OF THE ROLLS: I shall make the decree against your client.

Mr. SELWYN: I seek for no enquiry.

The MASTER OF THE ROLLS: If you insist there is no evidence.

Mr. SELWYN: Your Honour understands that, after the judgment, I do not consider it respectful to the Court to insist upon anything. Your Honour having decided it, I do not ask for an enquiry.

The MASTER OF THE ROLLS: I do ask the question, and I think it necessary that it should be answered. I mentioned it at the time when the cause was heard, and, therefore, I give you an opportunity of doing it, for the purpose of considering the case, if it goes further. If you insist that there is no evidence before me, then I shall of myself direct the enquiry; and if the enquiry turns out against you, I shall make your client pay the costs of it.

Mr. SELWYN: That relieves me from all apparent want of respect in saying anything after your Honour has pronounced your judgment, which certainly I should be most unwilling to do. What I say is that there is no distinction between the cases of C— and R—, and there is no particular act of fraud or improper payment alleged at all. It is merely a bill for a general account; therefore, as against my client, assuming him to have been a member of the committee of management, nothing is alleged. He has gone into no evidence. There is no allegation against him, and all that is brought forward is extracted from the examination of the other defendants.

Mr. SELWYN: I say there is not only no evidence against him, but there is not even an allegation.

The MASTER OF THE ROLLS: And that he has not had any opportunity of meeting the case.—Mr. SELWYN: I ask for no enquiry.

The MASTER OF THE ROLLS: Still I think he must have known the facts. I shall, in the case of your silent, direct an enquiry. I shall retract the observations I made with respect to the costs. I shall see how that enquiry turns out. I forget the name of Mr. Selwyn's client.—Mr. SELWYN: Sir Edmund Antrobus.

The MASTER OF THE ROLLS: I merely make this note for what may take place when it comes back again. I shall direct an enquiry, to ascertain whether he acted as a member of the committee of management, and whether he did subscribe for any of those shares, and receive any portion of the money, and whether he sanctioned the payment thereof to any of the others.

Mr. SELWYN: My learned friend will understand that is not my request.

## MEMS. OF MINES AND MINERS.—No. XXVIII.

Capt. PRYOR (Penstruthal Mine).—We knew that we shall be severely criticised for our continually depicting the character of Cornish captains so favourably, but we feel it our duty to hold up to notice in memoir only the good—to let the bad remain, and in doing so we think we only do right. The ancients are said to have made their slaves drunk, that their children, witnessing their horrid examples, might avoid so dreadful an evil. We prefer holding up virtue for imitation, and think it the better course. In doing so, we must necessarily omit many great and virtuous characters with whom we are unacquainted, as we offer none but those that we can authenticate, either from personal knowledge (the greater part being such), or from trustworthy and reliable sources. In our Mining Photographs, we have been accused of this sort of preference, but, when necessary, it will be found that the character of the villain and bala knave is admitted even amongst Cornishmen. There can be no doubt that there is a vast amount of rascality practised in the mining profession, much ignorance, and many other faults, but it is not the duty of the chronicler to record these except by generalities. There are such things as gentlemen of the long robe who make mountains out of mole hills; therefore, we prefer the path we have adopted, by showing youth how industry is rewarded, how perseverance attains success, and how fortitude under adverse circumstances, and determination to succeed is generally successful. But to return to our subject. This captain was until lately a working miner, whose activity, general intelligence, and sobriety attracted the attention of his employers, who rewarded him by the appointment to the management of this mine—an undertaking of no ordinary character. This once celebrated mine is sunk to the depth of upwards of 100 fms., and very large profits were made at its last working. Any one acquainted with the subject well appreciates the difficulty of draining an old and deep mine. This, however, has been effected, and the manner in which it has been done is such as to justify the high opinion his employers had formed of their embryo captain, it being effected without accident, in a brief period, and in a substantial manner, giving them entire satisfaction. This being Capt. Pryor's first essay as captain, we are debarred from that eulogy on his experience and talents that we sometimes, when necessary, pourtray; but after examining the mine over which he has charge, we cannot but award our meed of praise that his employers so generously, fairly, and invariably give him. He owes his elevation entirely to his good character and ability—a mark and pattern for young men, of infinitely more consequence to the rising generation than the examples through disgrace of all the "bala knaves" in the two counties. Go on, Capt. Pryor—fear not; we wish you as good a mine as you deserve, and in saying this we say enough.

Capt. DALTON (Wheal Christopher).—To have been the manager of a mine which has produced the largest piece of native copper ever raised in the British Islands, is something to say, though it be but fortuitous, certainly; but such is the fact appertaining to this gentleman, in the case of the Trenance Mine, where and by whom the mass was raised, part of which now forms one of the finest specimens in the Museum of Economic Geology, Jermyn-street. The undertaking was, however, unsuccessful, notwithstanding the most brilliant prospects at one time presented themselves, and "hope told a flattering tale." Capt. Dalton has been a persevering miner for many years, and deserves a great reward for his energetic advocacy of everything relating to mines and mining. Mr. Dalton is frequently consulted on mining prospects and adventures, and has had extensive experience in Cumberland and other parts. At present, the mine under his charge offers indications of his ultimately receiving what he so richly deserves, and which his friends so sincerely wish him, though it is common with many others, is sadly crippled by the late fall in the price of tin, that being the metal for which Wheal Christopher is being wrought. We have enjoyed the acquaintance of this gentleman for some years, and unite in the wish, universally expressed, that he will be rewarded by a great and lasting mine.

Mr. J. S. ENYS (Enys, near Penryn) is one of those extensive landholders whose property has been singularly enhanced by mining operations, and he, with wise and far-seeing policy, allows liberal terms, throwing fewer impediments in the miner's way than most other gentlemen and noblemen in the county. Mr. Enys, from his association with distinguished and liberal men of the profession, has so imbibed a knowledge of their necessities and requirements, that he may be said to be thoroughly practical man. The county owes much to this gentleman for the patronage of and personal interest he displays in the Polytechnic Society, and other institutions for the advancement of the arts and sciences, to the pages of whose "Transactions" he has been a liberal contributor. Endowed with a strong mechanical genius, the bent of Mr. Enys's inclination led him to naval architecture. Several models, exhibited by him from time to time, display the ability of the scientific draughtsman with the skill of the most practical mechanician. The exquisite beauty and finish of these specimens have frequently elicited loud encomiums from professional gentlemen. Nor was this all; many important improvements have been suggested and demonstrated by Mr. Enys. He is one of those fine old English gentlemen who delight in their homes; who spend their lives and their money amongst their neighbours, and rejoice in doing good. Would there were many like him, and that his example towards miners were more frequently imitated. Mr. Enys is now approaching the decadence of life; still we could not but admire and feel interested in the zeal and energy with which he examined and scrutinised Clifford's patent for lowering boats, a model of which was exhibited at the late Polytechnic meeting. Although age had dimmed his eye, and had trembled his hand, yet the fire of his soul was lit up when this the chord of his favourite pursuit was struck, and he appeared (no doubt felt) to have the ecstatic stimulus of youth. Mr. Enys has also distinguished himself as an agriculturist. Disdaining to follow in the beaten path of custom, he made an onslaught on the old stupid system of Cornish farming, and set an example, through ridicule and prejudice, that has triumphed over every obstacle; and he now enjoys the splendid demeane of his ample fortune enables him to maintain in noble style, to his own gratification, his neighbours' benefit, and the workpeople's blessing, all of which he justly deserves, and which it is to be hoped he will live long to enjoy.

ENGLISH COAL, AND HUMAN POWER.—Professor Rogers estimates that nearly one-sixth of the total annual produce of our coal mines is used for the production of mechanical power alone, from which a power equal to that of 66,000,000 able-bodied men is obtained. Each acre of a seam yielding 3 ft. of pure fuel is equal to about 5000 tons, and possesses a reserve of mechanical strength equal to the labour of 1800 men during their whole life; and each square mile of the same bed contains 8,000,000 tons of fuel, which is equal to 1,000,000 men labouring through 20 years of their ripe strength. Upon the same calculation, the total annual coal production of the United Kingdom (65,000,000 tons) is equal to the strength of 400,000,000 strong men, or more than double the number of adult males now upon the globe.

WHITE BRASS, OR UNOXIDISABLE CAST-IRON.—M. Porel, of Paris, has prepared an alloy which has the appearance and fracture of ordinary zinc, but is as hard as copper or iron, and tougher than cast-iron. It may be turned, filed, or drilled, as easily as those metals, does not adhere to metal moulds, and retains its metallic lustre perfectly in a moist atmosphere. This alloy is prepared by melting together zinc, copper, and cast-iron. It contains 10 per cent. copper and 10 per cent. iron. This alloy may be used for various purposes in the construction of machinery; it may be made to appear like bronze, either by covering it with a deposit of metal, or by throwing up the copper superficially, and is, therefore, well adapted for casting vases, statues, and other objects of artistic character that are to be exposed to the atmosphere, especially as it is not a costly material.

ALLOY FOR MEDALS, SMALL FIGURES, &c.—Herr von Bibra states that an alloy, consisting of 6 parts bismuth, 3 tin, and 13 lead, is very fusible, and remarkably hard, without being brittle. The fracture does not present any crystalline appearance. When objects cast with this alloy are moistened with dilute nitric acid, and rubbed with a wollen rag, the raised portions appear bright, and the depressions dull. Some castings of medals from gypsum moulds were so perfectly reproduced, that writing, which could be read on the originals only by aid of the microscope, was quite distinct in the copies. It is probable that this alloy would be serviceable for typographic purposes.

\*\* TAPPING'S PRIZE ESSAY ON THE COST-BOOK SYSTEM, enlarged and augmented, with Notes and an Appendix, can be had at the MINING JOURNAL office, 26, Fleet-street.—Price 6s.

## ROGERS'S NEW WORK ON IRON METALLURGY.\*

## THIRD NOTICE.

The author enters minutely into the subject of the injurious impregnation of iron with sulphur. The total expulsion of this deteriorating substance seems to be nigh impossible; yet its presence, to the extent of even a single ounce per ton, renders the iron, especially in particular qualities, objectionable when it comes under the finer operations of the blacksmith; and it is, therefore, of great consequence that its source should be known, as the first step towards barring its access into the manufacture. Mr. Rogers states that, excepting the sulphurites of iron, the ores very seldom contain this ingredient; and neither does the limestones; so that its presence is almost confined to the mineral fuels employed, in all which it abounds, and from which it generally proceeds. Great attention, then, is necessary on the part of the iron smelter to the coking process; so that he may be prepared with a well desulphurised coke to obtain a fully carburetted pig; and we see that as regards the raw coal smelter, he has an adversary who is not to be ignored. The sections which treat of the various fuels, raw and prepared, place this matter in a very clear light, the properties and appropriateness of the coals being judged by the colour of the ashes left after their complete combustion; the white being the best; and the farther the gradation through yellow and brown to red, the more imperative the necessity for their rejection for smelting purposes. The analyses of the coals are alike interesting, as showing the relative percentages of carbon which they afford, and the quantities of sulphurous impurity with which they are charged. The full carburation of the pig metal is urged, which is apt to be regarded as undesirable in the case of metal intended to be converted into malleable iron, seeing that a chief aim of the refining process is to discharge the carbon. The author's reason is, that this element is antagonistic to the sulphur—opposing its admission, and expelling what may enter.

\* An Elementary Treatise on Iron Metallurgy, up to the Manufacture of Puddled Bars, built upon the atomic system of philosophy, the elements operated upon being estimated according to Dr. Wollaston's Hydrogen Scale of Equivalents: comprising Suggestions relative to Important Improvements in the Manufacture of Iron and Steel, and the Conduct of Extensive Iron-Works; with Analytical Tables of Iron-making Materials." By SAMUEL BALDWIN ROGERS, of Nant-y-Glo, Monmouthshire. London: the Mining Journal office, 26, Fleet-street.

POPULAR GEOLOGY.\*—In nearly every occupation the science of Geology is highly essential, as it not only points out the nature of the materials on which we are about to act, but also the very spot where we may find the objects of our search, so far as metals and minerals are concerned. It was a practical knowledge of this science that enabled Sir Roderick Murchison, in 1846, at a meeting of the Geological Society of Cornwall, to state that gold could be found in Australia, which was proved to be true by the two Cornish miners sent out, returning in about two years with gold in their hands. There is no doubt but that the earth at a great depth is one mass of intensely heated matter, and that the surface has been gradually cooled down to its present temperature. The increase of heat in sinking mines is one proof of the central heat of the earth, and the hot springs of Bath, Buxton, and Carlsbad, in Bohemia, and the geysers of Iceland are others. By bearing this in view we shall be able to investigate the nature and character of granite, and of all the plutonic rocks with greater advantage. The number of simple substances, or those which cannot be reduced by any ordinary means to any other condition, is about 55, exclusive of some very little known. Of these 13 are non-metallic, as hydrogen, boron, &c; 8 earths and 3 alkalies have metallic bases, as potassium, sodium, calcium, aluminium; 31 are metallic, as gold, iron, arsenic. The consideration of the character and utility of all these substances is the province of mineralogy and chemistry, only very few entering into the composition of rocks: silica, or quartz; calcium, or lime; alumina (argill), or clay; magnesium, or magnesia; oxide of iron; &c. These are the only substances that enter chiefly into the composition of rocky masses. Silica enters largely into the composition of granite, syenite, &c., in its simple state; and iron is universally diffused as an oxide over the entire surface of the earth. It is to it, in the shape of clay iron-stone, that we are indebted for that immense amount of iron so absolutely necessary for our wants. To describe the several formations in the order in which they occur, we may state that granite is a crystalline rock, composed of quartz, felspar, and mica; the first being nearly pure silica, and the two others compounds. Granite differs materially in character in different localities; that from Cornwall is large grained, and part of it extremely liable to decomposition. Where the felspar is in excess the granite decomposes rapidly, and forms the fine porcelain clay used in the potteries. This is unfit for building, but the fine grained granite of Aberdeen is the most durable building-stone existing, and it is quarried extensively for this purpose. Porphyritic granite is so called from its containing large well-defined crystals of felspar in parallelograms, some 3 in. long. Syenite, or hornblende granite, is a rock of considerable interest. Cleopatra's Needle, Pompey's Pillar, and other noted works are of this stone, and retain their polish to the present day. It has all the appearance of ordinary granite till closely examined, when a dark bottle green coloured substance will be seen. This is hornblende, which occurs with the quartz, felspar, and mica, but it often replaces the latter. When either talc, chlorite, &chol, &c., are imbedded in or connected with granite it is called talcose granite, &chol rock, and so on, but these varieties are of limited extent, and little importance. The succeeding rocks are metamorphic, from the prevailing opinion being that they have been changed by heat. The clay-slates are of great extent, and contain a considerable quantity of alumina (clay). Both quartz and mica enter into the composition of the slate rocks. Gneiss may be known from granite from its assuming a kind of silty structure, the composition being the same as granite. The entire treatise is of the same simple and comprehensive character as the information above given, and does Mr. Adam greater credit; being, we believe, better calculated to induce a love of the science than any elementary work yet published. We shall refer to his description of the stratified rocks in a future Journal.

\* First Lessons in Geology. By W. Adam.—Derby: Mosley.

MANCHESTER GEOLOGICAL SOCIETY.—The monthly meeting was held on Monday, when Mr. E. W. Binney, F.R.S., president, occupied the chair. Mr. J. Dickinson, F.G.S., Government Inspector, produced many specimens of the "oval stones" about which there was some discussion at the previous meeting; all the specimens now produced being from the Roger Mine, Dukinfield. Mr. Dickinson said that any number of specimens could be had, for it was calculated that there was one in about every twenty yards of the coal. Since he was at the mine the manager had found a specimen weighing nearly 200 lbs. If these were meteoric stones, as the president supposed, human or animal remains might be anticipated, for there could hardly have been such a shower without some one or something being killed.—The Chairman said that, after many years' enquiry and search, he was only able to get three specimens of this kind of formation, and hear of a fourth. Ten or twelve years ago, when he wrote his paper, a gentleman told him that, after being thirty years among coalfields, he never found such a thing; and Mr. Warington Smyth had only found one. He (the Chairman) was surprised at the number of specimens produced by Mr. Dickinson; but his opinion as to their being meteoric stones was not altered. It was a mistake to suppose that meteoric stones were generally of iron and nickel. It was for siliceous stones had, in all ages, fallen abundantly. The composition of the specimens was about identical with that of these siliceous stones.—After some further conversation, Mr. Dickinson presented the specimens to the society's museum, as the contribution of Mr. Andrew Wray, manager of the Roger Mine, Dukinfield; and the thanks of the members to that gentleman were passed unanimously.

Mr. Atkinson read a paper on "Strata in the Derbyshire Coalfields," which he illustrated by reference to several extensive sections and maps. Mr. Atkinson explained that his main object in thus exhibiting and explaining the chief gneiss he had been able to obtain with reference to the southern extremity of the great midland coalfield, from Derby to Leeds (although he chiefly confined attention to the portion in Derbyshire), was to enable gentlemen connected with the Lancashire field to compare their measures with those of Derbyshire. He also suggested that the Lancashire owners should observe the position of the Derbyshire ironstone beds, and see if there was not some similarity in their occurrences in the two counties. Thanks were voted to Mr. Atkinson. A long discussion ensued—first as to whether the main seams could be identified, the opinion of the Chairman and others being against such a result, and second, whether there was ironstone to be found in working the Lancashire coal measures which could be itself worked advantageously.—The Chairman said it would be a great advantage to the ironworkers of Ulverstone if any body could find and work in Lancashire a mine of hard coal, something like that from Barnsley or Staveley.—Mr. Peace suggested that possibly a kind which he mentioned might be available; and Mr. Knowles mentioned the Trentham Mine.—The Chairman had no doubt there was plenty of ironstone in this district—much more than gentlemen seemed to imagine.—Mr. Peace said he believed that if a foundry was set up in the neighbourhood of Wigan, a supply of ironstone might be obtained, ample to keep it in work. It would be obtained without trouble; if sold for working the profit would reduce the cost of coal getting, and the coals would be better got. He had in his mind several seams near Wigan where this could be done, if the stone could be sold.—The Chairman said he did not doubt that within ten years there would be six or seven furnaces blazing away in the neighbourhood of Wigan. He hoped the society would have a meeting specially to talk about the ironstone question.—Mr. Atkinson, in reply to the Chairman, said he should be glad to present to the society copies of his sections.—Manchester Guardian.

VULCANISING INDIA-RUBBER.—It has been found hitherto impracticable to vulcanise to a high degree of hardness, as well as solidity, any very thick mass of India-rubber or guita percha, for the reason that the sulphur employed generates within the mass, at the temperature required, an expansive gas, which has an opportunity of escaping from thin sheets of India-rubber or guita percha, but which renders the interior of a mass spongy or cellular, often causing the moulds to burst while under the effect of heat; or, if secured against that, the article when removed from the mould expands largely, destroying both its delicacy of form and its density. A ball or cylinder of 2 or 3 in. diam., vulcanised in the usual manner, would be found, when cut through, to be solid only for a short distance below the surface, the interior being spongy, to some extent carbonised, and when recently made emitting the odour of sulphurated gas. The defects are obviated, and a hard and equally solid mass throughout is obtained, by the process of Mr. Day, of New York, who mixes with the matter, when prepared for being vulcanised, a substance which prevents the cellular and spongy character, by absorbing the sulphurous acid gas as fast as it is generated. The material employed for effecting this purpose is by preference ordinary pipe-clay (alumine); but other substances capable of absorbing the gas may be employed: 1 lb. of purified India-rubber or guita percha having been mixed with 8 ozs. of sulphur (sublimated) in the usual manner, 8 ozs. of alumine are added, taking care to have it distributed evenly throughout. This mass may now be vulcanised in the ordinary manner. Articles requiring thickness, hardness, and equal solidity throughout can thus be produced, as all the gases evolved by the action of the sulphur will be rapidly absorbed by the alumine or other absorbing agent employed. In this manner balls of 4 in. diameter, which do not expand perceptibly when taken out of the mould, may be made, and which when cut are uniformly dense and compact throughout.

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Persons desirous to invest their capital in mining speculations, will find this a very useful guide.—Warwick Advertiser.

It is full of carefully compiled and reliable information relative to all the known mines in the United Kingdom.—Sheffield Free Press.

Those interested in mining affairs, or who are desirous of becoming speculators should obtain and carefully peruse the work.—Monmouth Beacon.

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